Development of the TAKVOL Big Ball Game Model to Increase Learning Motivation for Class VIII Students at SMP Negeri 1 Candi

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ABSTRACT
This research uses the R & D (Research & Develop) development method so that the feasibility of modifying the TAKVOL game model will be obtained. This research aims to (1) produce modifications to the TAKVOL game model, (2) describe the feasibility of modifying the TAKVOL game model, and (3) increase student learning motivation on forearm passing material. From the results of the TAKVOL game trial on forearm passing material, the feasibility of the TakVOL game is feasible because it meets (1) the valid category for expert validation test results and (2) the feasible category for feasibility trial results. From the results of student trials at SMP Negeri 1 Candi, the TAKVOL game is effective. This is based on the results of the student learning motivation questionnaire in the good category, and the results of the student t-test state that there is a significant difference between the sample average and the standard average of student motivation.

INTRODUCTION
Physical Education, Sports, and Health or Pendidikan Jasmani, Olahraga, dan Kesehatan (PJOK) is a means to encourage the appreciation of attitudinal values (attitude, emotions, sportsmanship, spirituality, and social), physical development, psychological development, and healthy living habits (Prasetyo & Citrawati, 2020). Therefore, implementing physical education in schools requires facilities and infrastructure that accommodate students so that students can learn and develop their skills effectively. Several factors influence the success of physical education in schools, namely teachers, students, infrastructure, and curriculum (Class, 2021). Physical
education in schools proves that sport is an element of training that can improve the quality of human resources to build physical and spiritual health, form disciplined behavior and sportsmanship, develop sports achievements, and improve sports achievements. (Hakim & Hanif, 2017). The success of education is primarily determined by the education of teachers who can implement, are diligent, and are skilled in the learning process because the teacher is the spearhead in the learning process and plays a role in achieving educational goals.

In physical education, many subjects need to be taught to students, including learning to play volleyball. Volleyball is a sport taught at all levels of school, from elementary to college. Volleyball is a big ball game played by two teams separated by a net, each team consists of six people (Ikhwani et al., 2021). According to Juliansyah (2021), the basic volleyball techniques that need to be mastered are passing, service, smashing, and blocking. The various basic techniques that should be addressed, namely passing. When the given passing is not perfect, then the team will have difficulty attacking the opponent; on the other hand, if the passing is done perfectly, then the defensive and attacking strategies that have been planned can be implemented properly (Kurniawan & Perdima, 2021).

The result of observations with the sports teacher at SMPN 1 Candi, researchers found several problems that could be developed into potential student development, one of which was volleyball learning. During skill learning, teachers can develop forearm passing material, which previously provided instructions for students to work on forearm passing in pairs and, after that, play the game. TAKVOL stands for Takraw Voli, which is a modification of the two games, takraw, and Volleyball. In previous research examined by Priadana et al. (2018), the results of this research, the TAKVOL learning model could be applied to learning to increase student’s interest in learning using TAKVOL modifications. “Based on these problems, researchers conducted research on the Development of the TAKVOL Big Ball Game Model to Increase Learning Motivation for Class VIII Students at Candi State Middle School.”

**METHODS**

This research develops a modification of the TAKVOL game model on the material passing under VIII, which can increase student learning motivation using the modified model development method R & D (Sugiyono, 2018). In developing the modified TAKVOL game model, it consists of 9 stages, namely 1) Potential Problems, 2) Collection, 3) Product Design, 4) Product Validation, 5) Design Improvement, 6) Product Testing, 7) Design Revision, 8) Test try Usage, 9) Product Revision.

The modification of the TAKVOL game model developed in this research only reaches the product revision stage or only nine stages, so the feasibility results of modifying the TAKVOL game model developed are known.

The feasibility of modifying the TAKVOL game model developed in this research was obtained after the material and media expert validation phase. In contrast, feasibility
was obtained after the TAKVOL game model was used and assessed by teachers at SMP Negeri 1 Candi, the effectiveness of the TAKVOL game model was obtained from student response questionnaires, and student learning motivation was obtained from the learning motivation questionnaire.

The instruments used to collect data are questionnaire sheets, feasibility sheets, and validation sheets. The data collection method used in this research is as follows: 1) The researcher met and asked for advice and input from material and media experts by providing a TAKVOL game model design and validation sheets for material and media aspects. 2) Researchers met and asked for validation of suggestions and input from practitioners (PJOK teachers) by providing a TAKVOL game model design (TAKVOL game model that has been validated by experts) and a feasibility sheet to be assessed on the feasibility aspect of using the TAKVOL game model. 3) After students use the TAKVOL game model, students are asked to fill out a student learning motivation questionnaire, which aims to determine the level of effectiveness of students in using the TAKVOL game model, and (4) Students fill out a learning motivation questionnaire and student t-test, this aims to see whether the TAKVOL game model can increase student learning motivation or not.

RESULTS AND DISCUSSION

Potential Problems

Research can be carried out on the potential and problems. SMP Negeri 1 Canid has several volleyball facilities, nets, and schoolyard infrastructure available at the school; educators and students can make maximum use of them. Second, this potential can be utilized in terms of forearm passing skills in volleyball through the TAKVOL game development model.

The learning carried out still needs to attract students' enthusiasm in learning forearm passing material. This problem can be overcome by developing a TAKVOL game modification model. Researchers can take data on potential problems from the results of observations from PJOK teachers at SMP Negeri 1 Candi.

Data collection

Researchers made observations at SMPN 1 Candi for deeper problems and potential in the volleyball learning process. The instruments used to collect data are questionnaire sheets, feasibility sheets, and validation sheets.

Product Design

Researchers created a product design from the data collection results by modifying the combination of the Takraw and volleyball games or TAKVOL. The product design was created based on the results of an analysis of students' problems and potential so that a new product design, namely the modified TAKVOL game model, was obtained.

Design Validation

The product design will be validated by experts, including material experts and media experts. The design validation process aims to measure the feasibility of the
TAKVOL game modification model product design. The validation results from each expert:

**Materials Expert**

Aspects and indicators that will be assessed by material experts. This is intended to measure the TAKVOL game pocketbook in the context of the material used by researchers.

The material expert's assessment of the development of the TAKVOL game pocketbook obtained an average score of 3.08 out of a maximum score of 4.0. In other words, the development of the TAKVOL game pocketbook was in a good category.

**Media Expert**

Aspects and indicators that will be assessed by media experts. This is intended to measure the TAKVOL game pocketbook in the context of the media used by researchers.

The media expert's assessment of the development of the TAKVOL game pocketbook received an average score of 3.15 out of a maximum score of 4.0 in other words, the development of the TAKVOL game pocketbook was categorized as good.

**Design Improvements**

After experts validate the product design, the researcher will improve the product design of the TAKVOL game modification model according to expert input and suggestions. If there are no improvements or after improving the design, the research will continue to the product testing stage. Design improvements were made according to expert input.

**Product Testing**

Based on input and suggestions from material and media experts, the TAKVOL game modification model product can be tested directly on students as product users. The first test carried out a simulation using the TAKVOL game modification model for class VIII students at SMPN 1 Candi, totalling 18 students. Testing was carried out to obtain information on the feasibility of the TAKVOL game modification model.

The feasibility assessment for developing the TAKVOL game pocketbook received an average score of 3.00 out of a maximum score of 4.0. In other words, the development of the TAKVOL game pocketbook was categorized as good.

**Design Revision**

If the test is feasible, the TAKVOL game modification model will be carried out in product trials. The TAKVOL game modification model can be applied to a broader sample from which the sample was taken. Then, if one of the students or the sample does not match what was expected in the test, the TAKVOL game modification model needs to be revised again. Once revised, it needs to be tested again in a broader sample. After the TAKVOL game modification model was successfully implemented with wider and smaller samples, it was mass-produced and widely used.

**Trial Use**

After successful product trials, a modified TAKVOL game model was applied to a large group of 36 Class VIII students of SMPN 1 Candi who were randomly selected from Classes VIII A - VIII J through cluster random sampling.
The student learning motivation questionnaire assessment on the development of the TAKVOL game pocketbook obtained an average score of 3.49 out of a maximum of 4.0. In other words, the development of the TAKVOL game pocketbook was categorized as good in student learning motivation.

Test results of the student t-test state that the t-table value (\(-2.030 > t\text{-count} = 2.488\)) it can be concluded that there is a significant difference between the sample mean and the average standard student motivation.

**Product Revision**

Product revisions or product improvements were not carried out; this was because the development of the TAKVOL game was categorized as good or proven to be effective from the aspects of expert assessment, feasibility assessment, and student learning motivation.

**DISCUSSION**

This research aims to produce a TAKVOL game pocket book product as a learning medium for PJOK in forearm passing material class VIII. The development steps are based on the development model according to Sugiyono (2018), which was modified by researchers. This development model consists of 9 development stages, namely 1) Potential Problems, 2) Collection, 3) Product Design, 4) Product Validation, 5) Design Improvement, 6) Product Trial, 7) Design Revision, 8) Usage Trial, 9) Product Revision.

Validate the TAKVOL game pocketbook media by validating media experts, material experts, and PJOK subject students. Validation of media experts and material experts was carried out by two lecturers. Here, the validator fills in a validation sheet consisting of 25 (twenty-five) items where the validator fills in one of the assessment columns on a scale of 1, 2, 3, or 4 for each question item by ticking it.

The media validation results show that the average rating for each question item is 3.15 and is included in the good category. The validator concluded that the media contained in the TAKVOL game pocketbook was said to be suitable for use but needed to be revised according to the validator’s suggestions. The material validation results show that each question item’s average rating is 3.08 and is included in the good category. Even though it has been categorized as good, the validator concluded that the learning media is suitable for use but needs to be revised according to the validator’s suggestions (Riva’i, 2020).

Apart from validating the media and materials, the TAKVOL game pocketbook also validates the PJOK subject teachers. The validation results show that the average rating is 3.0 and is categorized as good.

The student learning motivation questionnaire assessment on the development of the TAKVOL game pocketbook obtained an average score of 3.49 out of a maximum of 4.0. In other words, the development of the TAKVOL game pocketbook was categorized as good, and the student t-test states that the t-table value (\(-2.030 > t\text{-count} = 2.488\)) there is a significant difference between the average sample and the standard of student motivation in student learning motivation.
Based on the research conducted by Bakrie (2016) and validation results from media experts, materials, and PJOK subject teachers, it can be concluded that the TAKVOL game pocketbook is suitable for testing but needs to be revised according to the validator's suggestions.

CONCLUSION

This research has produced a TAKVOL game pocketbook on forearm passing material for class VIII. The validity of the TAKVOL game pocketbook is demonstrated by the results of material and media expert assessments through the validation stage, which has stated that the TAKVOL game pocketbook can be used after carrying out the improvement stages. Feasibility can also be seen from practitioner trials in which educators state that the TAKVOL game pocketbook is suitable for testing on students. Effectiveness is shown from the results of the student learning motivation questionnaire, which are categorized as good.

REFERENCES


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